

activated carbon, silicon carbide, aluminum oxide, silicon dioxide, titanium dioxide, zirconium dioxide, magnesium oxide, zinc oxide or a mixture of two or more thereof.

B² concluded
17 30. [A] The process [as claimed in] claim [4] *14*, wherein the support comprises activated carbon, silicon carbide, aluminum oxide, silicon dioxide, titanium dioxide, zirconium dioxide, magnesium oxide, zinc oxide or a mixture of two or more thereof.

Add the following new claims:

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16 31. A plastics product containing a cyclohexanedicarboxylic ester according to claim *12* or a cyclohexanetricarboxylic ester or a mixture of two or more thereof as a plasticizer.

19 32. A plastics product containing a cyclohexanedicarboxylic ester according to claim *13* or a cyclohexanetricarboxylic ester or a mixture of two or more thereof as a plasticizer.

20 33. A plastics product containing a cyclohexanedicarboxylic ester according to claim *14* or a cyclohexanetricarboxylic ester or a mixture of two or more thereof as a plasticizer.--

REMARKS

Applicants have amended the claims to overcome the objections raised by the examiner under 35 USC §§ 112 and 101. The examiner's suggestion for indicating what is being "hydrogenated" was well taken. In addition, claims 24-26 have now been

BRUNNER et al., Serial No. 09/581,843

converted to composition claims. It is urged that the application is now in condition to be allowed. Favorable action is solicited.

Please charge any shortage in fees due in connection with the filing of this paper, including Extension of Time fees to Deposit Account No. 11-0345. Please credit any excess fees to such deposit account.

Respectfully submitted,

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Claims as of 2/2/01 in BRUNNER et al., SN 09/591,854, 48662, NAE19970885PCUS

11. A process for hydrogenating a benzenepolycarboxylic acid or a derivative thereof to the corresponding cyclohexane polycarboxylic acid or a mixture of two or more thereof by bringing the benzenepolycarboxylic acid or the derivative thereof or the mixture of two or more thereof into contact with a hydrogen-containing gas in the presence of a catalyst which comprises as active metal at least one metal of transition group VIII of the Periodic Table alone or together with at least one metal of transition group I or VII of the periodic table applied to a support which contains macropores having a pore diameter of greater than 50 nm according to the definition in Pure Applied Chemistry 45, p. 79 (1976) with the proviso that if dimethyl terephthalate is hydrogenated, the hydrogenation using a catalyst which comprises as active metal ruthenium either alone or together with at least one metal of transition group I, VII or VIII of the Periodic Table applied to a support, where the support has a mean pore diameter of at least 50 nm and a BET surface area of at most 30 m²/g and the amount of the active metal is from 0.01 to 30% by weight, based on the total weight of the catalyst, and the ratio of the surface areas of the active metal and the catalyst support is less than 0.05,

and/or

a catalyst which comprises as active metal ruthenium either alone or together with at least one metal of transition group I, VII or VIII of the Periodic Table in an amount of from 0.01 to 30% by weight, based on the total weight of the catalyst, applied to a support, where from 10 to 50% of the pore volume of the support is formed by macropores having a pore diameter in the range from 50 nm to 10,000 nm and from 50 to 90% of the pore volume of the support is formed by mesopores having a pore diameter in the range from 2 to 50 nm, where the sum of the pore volumes adds up to 100%, is excluded.

12. A process as defined in claim 11, wherein the catalyst comprises as active metal at least one metal of transition group VIII of the Periodic Table either alone or together with at least one metal of transition group I or IV of the Periodic Table applied

to a support, where the support has a mean pore diameter of at least 50 nm and a BET surface area of at most 30 m²/g and the amount of the active metal is from 0.01 to 30% by weight, based on the total weight of the catalyst.

13. A process as defined in claim 11, wherein the catalyst comprises as active metal at least one metal of transition group VIII of the Periodic Table either alone or together with at least one metal of transition group I or VII of the Periodic Table in an amount of from 0.01 to 30% by weight, based on the total weight of the catalyst, applied to a support, where from 10 to 50% of the pore volume of the support is formed by macropores having a pore diameter in the range from 50 nm to 10,000 nm and from 50 to 90% of the pore volume of the support is formed by mesopores having a pore diameter in the range from 2 to 50 nm, where the sum of the pore volumes adds up to 100%.

14. A process as defined in claim 11, wherein the catalyst comprises as active metal at least one metal of transition group VIII of the Periodic Table either alone or together with at least one metal of transition group I or VII of the Periodic Table in an amount of from 0.01 to 30% by weight, based on the total weight of the catalyst, applied to a support, where the support has a mean pore diameter of at least 0.1 μ m and a BET surface area of at most 15 m²/g.

15. A process as defined in claim 11, wherein the benzenepolycarboxylic acid or the derivative thereof is selected from the group consisting of monoalkyl and dialkyl esters of phthalic acid, terephthalic acid and isophthalic acid, monoalkyl, dialkyl and trialkyl esters of trimellitic acid, trimesic acid and hemimellitic acid, monoalkyl, dialkyl, trialkyl and tetraalkyl esters of pyromellitic acid, where the alkyl groups can be linear or branched and each have from 3 to 18 carbon atoms, anhydrides of phthalic acid, trimellitic acid and hemimellitic acid, pyromellitic dianhydride and mixtures of two or more thereof.

16. A process as defined in claim 12, wherein the benzenepolycarboxylic acid or the derivative thereof is selected from the group consisting of monoalkyl and dialkyl esters of phthalic acid, terephthalic acid and isophthalic acid, monoalkyl, dialkyl and

trialkyl esters of trimellitic acid, trimesic acid and hemimellitic acid, monoalkyl, dialkyl, trialkyl and tetraalkyl esters of pyromellitic acid, where the alkyl groups can be linear or branched and each have from 3 to 18 carbon atoms, anhydrides of phthalic acid, trimellitic acid and hemimellitic acid, pyromellitic dianhydride and mixtures of two or more thereof.

17. A process as defined in claim 13, wherein the benzenepolycarboxylic acid or the derivative thereof is selected from the group consisting of monoalkyl and dialkyl esters of phthalic acid, terephthalic acid and isophthalic acid, monoalkyl, dialkyl and trialkyl esters of trimellitic acid, trimesic acid and hemimellitic acid, monoalkyl, dialkyl, trialkyl and tetraalkyl esters of pyromellitic acid, where the alkyl groups can be linear or branched and each have from 3 to 18 carbon atoms, anhydrides of phthalic acid, trimellitic acid and hemimellitic acid, pyromellitic dianhydride and mixtures of two or more thereof.

18. A process as defined in claim 15, wherein the benzenepolycarboxylic acid or the derivative thereof is selected from the group consisting of monoalkyl and dialkyl esters of phthalic acid, terephthalic acid and isophthalic acid, monoalkyl, dialkyl and trialkyl esters of trimellitic acid, trimesic acid and hemimellitic acid, monoalkyl, dialkyl, trialkyl and tetraalkyl esters of pyromellitic acid, where the alkyl groups can be linear or branched and each have from 3 to 18 carbon atoms, anhydrides of phthalic acid, trimellitic acid and hemimellitic acid, pyromellitic dianhydride and mixtures of two or more thereof.

19. A process as defined in claim 11, wherein the support comprises activated carbon, silicon carbide, aluminum oxide, silicon dioxide, titanium dioxide, zirconium dioxide, magnesium oxide, zinc oxide or a mixture of two or more thereof.

20. A process as defined in claim 12, wherein the support comprises activated carbon, silicon carbide, aluminum oxide, silicon dioxide, titanium dioxide, zirconium dioxide, magnesium oxide, Zinc oxide or a mixture of two or more thereof.

21. A process as defined in claim 13, wherein the support comprises activated carbon, silicon carbide, aluminum oxide, silicon dioxide, titanium dioxide, zirconium

dioxide, magnesium oxide, zinc oxide or a mixture of two or more thereof.

22. A process as defined in claim 14, wherein the support comprises activated carbon, silicon carbide, aluminum oxide, silicon dioxide, titanium dioxide, zirconium dioxide, magnesium oxide, zinc oxide or a mixture of two or more thereof.

23. A process as defined in claim 11, wherein the hydrogenation is carried out in the presence of a solvent or diluent.

27. The process of claim 11, wherein the hydrogenation is carried out continuously.

28. The process of claim 12, wherein the support comprises activated carbon, silicon carbide, aluminum oxide, silicon dioxide, titanium dioxide, zirconium dioxide, magnesium oxide, zinc oxide or a mixture of two or more thereof.

29. The process claim 13, wherein the support comprises activated carbon, silicon carbide, aluminum oxide, silicon dioxide, titanium dioxide, zirconium dioxide, magnesium oxide, zinc oxide or a mixture of two or more thereof.

30. The process claim 14, wherein the support comprises activated carbon, silicon carbide, aluminum oxide, silicon dioxide, titanium dioxide, zirconium dioxide, magnesium oxide, zinc oxide or a mixture of two or more thereof.

31. A plastics product containing a cyclohexanedicarboxylic ester according to claim 12 or a cyclohexanetricarboxylic ester or a mixture of two or more thereof as a plasticizer.

32. A plastics product containing a cyclohexanedicarboxylic ester according to claim 13 or a cyclohexanetricarboxylic ester or a mixture of two or more thereof as a plasticizer.

33. A plastics product containing a cyclohexanedicarboxylic ester according to claim 14 or a cyclohexanetricarboxylic ester or a mixture of two or more thereof as a plasticizer.